

CLAIMS

1. A raw solution feeding system for a vaporizer characterized in that a plurality of passages and a plurality of valves communicating with the plurality of passages are formed in one polyhedral block, and a block valve in which at least one surface thereof can be directly connected with a liquid feeding tank or a liquid feed destination device through a sealing is attached to a raw solution tank or a vaporizer.

2. A raw solution feeding system for a vaporizer characterized by using a monoblock valve therein, wherein the monoblock valve is a valve having a valve V1 which has one passage at one end and two passages at the other end, a valve V2 which has one passage at one end and one passage at the other end and a valve V3 which has one passage at one end and one passage at the other end being formed in one block together with the passages,

the passage at one end of the valve V1, one passage at the other end of the valve V1, the passage at one end of the valve V2 and the passage at one end of the valve V3 respectively have opening sections A, B, C and D outside the block, and

the other valve at the other end of the valve V1, the passage at the other end of the valve V2 and the passage at the other end of the valve V3 communicate with each other.

3. The raw solution feeding system for a vaporizer according to claim 2, wherein the opening section A is determined as a cleaning agent inlet, the opening section C is determined as a pressure gas inlet, the opening section D is determined as a purge gas inlet, and the opening section B is determined as an outlet.

4. The raw solution feeding system for a vaporizer according to claim 3, wherein a passage extending from the opening section A to the opening section B is horizontal or declined.

5. The raw solution feeding system for a vaporizer according to one of claims 2 to 4, wherein the opening section A is formed on a flat surface.

6. A raw solution feeding system for a vaporizer characterized by using a monoblock valve therein, wherein the monoblock valve is a valve having a valve V1 which has one passage at one end and three passages at the other end, a valve V2 which has one passage at one end and one passage at the other end, a valve V3 which has one passage at one end and one passage at the other end, and a valve V4 which has one passage at one end and two passages at the other end being formed in one block together with the passages, the passage at one end of the valve V1, one passage

at the other end of the valve V1, the passage at one end of the valve V2, the passage at one end of the valve V4 and one passage at the other end of the valve V4 respectively have opening sections A, C, B, D and E outside the block, and

another passage at the other end of the valve V1 communicates with the passage at the other end of the valve V2, still another passage at the other end of the valve V1 communicates with the passage at one end of the valve V3, the passage at the other end of the valve V3 communicates with the other passage at the other end of the valve V4.

7. The raw solution feeding system for a vaporizer according to claim 6, wherein the opening section A is determined as a raw solution inlet, the opening section B is determined as a vacuum exhaust port, the opening section C is determined a raw solution outlet, the opening section D is determined as a pressure gas outlet and the opening section E is determined as a pressure gas inlet.

8. The raw solution feeding system for a vaporizer according to claim 7, wherein a passage extending from the opening section A to the opening section D is horizontal or declined.

9. The raw solution feeding system for a vaporizer according to claim 7 or 8, wherein the opening section A

and the opening section D are formed on flat surfaces.

10. A raw solution feeding system for a vaporizer characterized by using a monoblock valve therein, wherein the monoblock valve is a valve having a valve V1 which has one passage at one end and two passages at the other end, a valve V2 which has two passages at one end and one passage at the other end, a valve V3 which has one passage at one end and one passage at the other end, and a valve V4 which has one passage at one end and one passage at the other end being formed in one block together with the passages,

the passage at one end of the valve V1, one passage at one end of the valve V2, the passage at one end of the valve V3 and the passage at one end of the valve V4 respectively have opening sections E, C, D and B outside the block,

one passage at the other end of the valve V1 communicates with the passage at the other end of the valve V3, the other passage at the other end of the valve V1 communicates with the passage at the other end of the valve V2, and the other passage at one end of the valve V2 communicates with the passage at the other end of the valve V4, and

one end of the monoblock valve has an opening section A outside the block, and the other end of the same communicates with a passage which allows the other passage at the other end of the valve V1 to communicate with the

passage at the other end of the valve V2.

11. The raw solution feeding system for a vaporizer according to claim 10, wherein the opening section A is determined as a raw solution outlet, the opening section B is determined as a vacuum exhaust port, the opening section C is determined as a raw solution inlet, the opening section D is determined as a purge gas inlet, and the opening section E is determined as a washer inlet.

12. The raw solution feeding system for a vaporizer according to claim 11, wherein a passage extending from the opening section C to the opening section A is horizontal or declined.

13. The raw solution feeding system for a vaporizer according to one of claims 10 to 12, wherein a massflow controller is provided between a raw solution source and the opening section C.

14. A raw solution feeding system for a vaporizer characterized by using a monoblock valve therein, wherein the monoblock valve is a valve having a valve V1 which has one passage at one end and one passage at the other end, a valve V2 which has one passage at one end and three passages at the other end, a valve V3 which has one passage at one end and one passage at the other end, a valve V4

which has one passage at one end and two passages at the other end, and a valve V5 which one passage at one end and one passage at the other end being formed in one block together with the passages,

the passage at one end of the valve V1, one passage at one end of the valve V2, the passage at one end of the valve V3, the passage at one end of the valve V4 and the passage at one end of the valve V5 respectively have opening sections B, A, D, E and F outside the block,

one passage at the other end of the valve V1 communicates with the passage at one end of the valve V2, one passage at the other end of the valve V2 communicates with the passage at the other end of the valve V3, another passage at the other end of the valve V2 communicates with the passage at the other end of the valve V4, and the other passage at the other end of the valve V4 communicates with the passage at the other end of the valve V5, and

one end of the monoblock valve has an opening section C outside the block and the other end of the same communicates with still another passage at the other end of the valve V2.

15. The raw solution feeding system for a vaporizer according to claim 14, wherein the opening section A is determined as a mixed raw solution outlet, the opening section B is determined as a raw solution inlet, the opening section C is determined as another raw solution

inlet, the opening section D is determined as a vacuum exhaust port, the opening section E is determined as a washer inlet, and the opening section F is determined as a purge gas inlet.

16. The raw solution feeding system for a vaporizer according to claim 15, wherein a passage extending from the opening sections B and C to the opening section A is horizontal or declined.

17. The raw solution feeding system for a vaporizer according to one of claims 10 to 12, wherein a massflow controller is provided between a raw solution source and the opening section C.

18. The raw solution feeding system for a vaporizer according to one of claims 14 to 17, wherein the opening section A is formed on a flat surface.

19. The raw solution feeding system for a vaporizer according to claim 18, wherein the vaporizer can be directly attached to the flat surface through a sealing member.

20. The raw solution feeding system for a vaporizer according to one of claims 1 to 19, wherein the valve is a diaphragm valve.

21. The raw solution feeding system for a vaporizer according to one of claims 1 to 20, wherein an internal diameter of the passage is not greater than 2 mm.

22. A method of cleaning a raw solution feeding system for a vaporizer characterized in that a raw solution is prevented from dropping in passages in a valve due to the surface tension, and a purge gas is passed through the passages.